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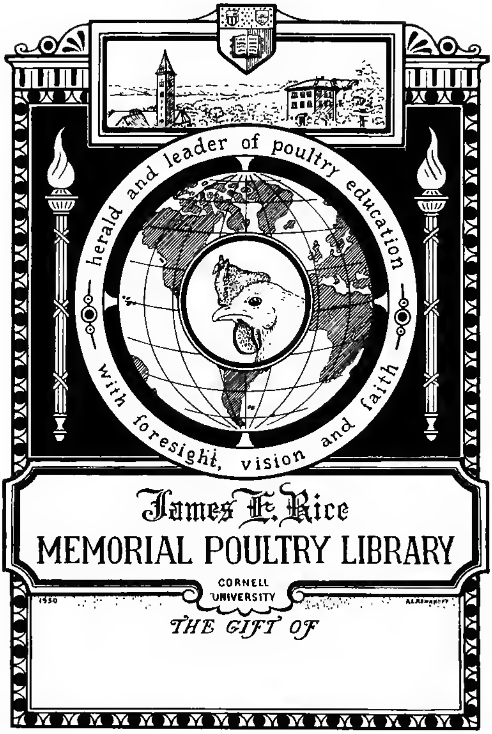
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INTENSIVE
Poultry Culture

BY
M. BAYNES

FOURTH EDITION

THE
FEATHERED WORLD,
9, ARUNDEL STREET,
STRAND, LONDON, W.C.2.

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Photo] [*"Feathered World."*

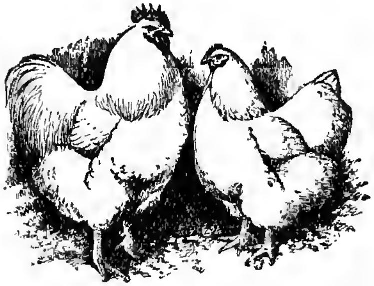
GENERAL VIEW OF PART OF THE AUTHOR'S INTENSIVE PLANT.

INTENSIVE POULTRY CULTURE.

BY

M. BAYNES.

[Fourth Edition.]



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PUBLISHER'S NOTE.

Readers of this book in any difficulty with their birds can always obtain expert advice, free, through the "Answers to Queries" columns of "The Feathered World," published every Friday, at 9, Arundel Street, Strand, London.

PREFACE.

It is with considerable diffidence that I venture to add this little book to the library of Poultrydom, but, as the subject of Intensive Poultry Culture is arousing considerable interest, the practical experiences of one who may claim to be among the first to try this system fairly comprehensively in England, may be of assistance to those who are thinking of launching out on these lines.

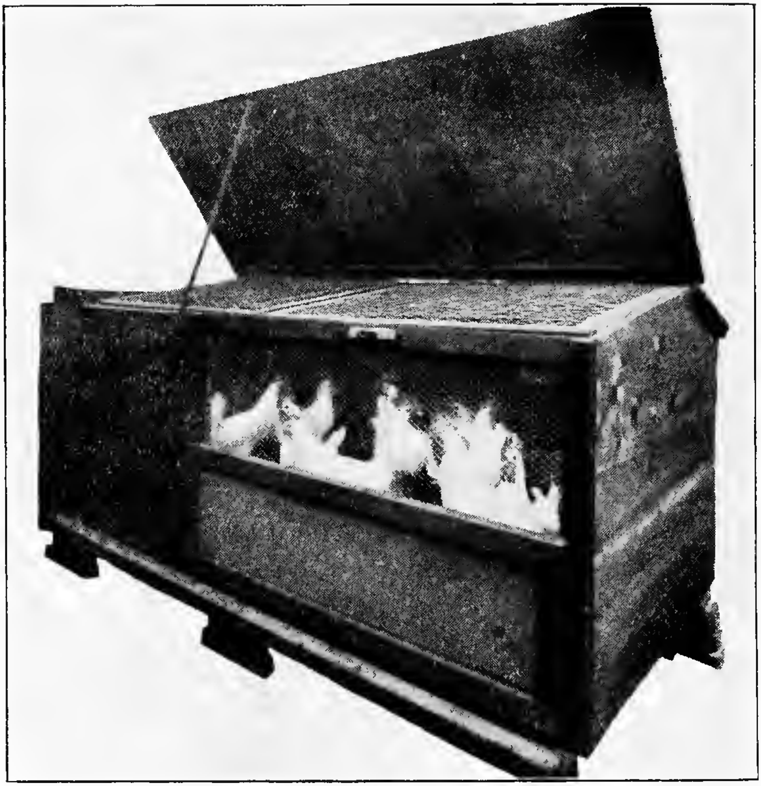
I have been greatly assisted in the compilation of this book by my husband, and the chapter on houses and appliances is entirely from his pen. The drawings and descriptions he has given are all of houses, etc., which he has designed and, in some cases, constructed entirely himself.

[NOTE TO THIRD EDITION.]

While bringing my little book up-to-date in this Third Edition, I should like to take the opportunity of thanking the many people who have written me appreciative letters and I am very glad to know that so many of them have been successful in their attempts to obtain winter eggs by the Intensive method. I would at the same time like to warn all that it is the attention to detail which makes for success and I am certain that all those who carefully follow out the instructions given in this book will find that it is possible to make poultry pay !

M. BAYNES.

July, 1916.



Photo] [*"Feathered World."*

Small House for eight to ten birds, nest boxes at back, with hessian rain-shutter down.

INTENSIVE POULTRY CULTURE.

GENERAL REMARKS.

Intensive poultry culture may be briefly defined as a system of keeping fowls in close confinement, with the objects (1) of keeping a very much larger number than would be possible on the same area of ground with fowls allowed partial or complete liberty to roam over the land; (2) of obtaining the highest return in eggs, particularly during the winter, when genuine new-laid eggs are very scarce. It is, however, necessary to add to that definition that the close confinement must be carried out under certain rules as regards housing, hygiene and feeding, if it is to attain its objects.

The system should appeal both to the man who thinks of fowls in thousands and to the man who thinks of them in tens, for the simple reason that its methods are as good for the one as for the other.

As regards housing, it should be clearly understood that the actual form of the house is a matter of small importance, provided that sufficient space of superficial area per bird (at least three square feet) is allowed, and that warmth in cold weather, ample freshness and shade in hot weather, with no draughts, good ventilation and dryness at all times both for the birds and their scratching litter, are ensured.

At the end of the book will be found some designs for houses, both for a small quantity and for large numbers of birds, which we have proven to possess all these qualifications, but, as we said before, the actual shape of the house does not really matter, so long as it has the desired qualifications.

As regards hygiene, the atmosphere of the house should always be sweet, and to attain this the system we have adopted is as follows:—The excrement from the birds at night is caught on dropping boards, which, after being scraped clean in the morning, are removed from the house during the day. Those who like to give their birds a perch to use during the day (as we do), can easily design accordingly. In order to keep the litter clean and sweet, it is raked all over at least once a day.

Quite the best scratching material I have come across, and I have experimented with many, is cedar litter. It is very pleasant smelling and, in my experience, is less subject than any other form of litter to the moisture-laden atmosphere so prevalent in the British Isles. This litter should be passed through an ordinary gardener's sieve about once in every six weeks and, if this is carried out regularly, it will be found that the droppings have dried up in the litter and are left on the top of the sieve, while the litter passes through and can be used again almost indefinitely, *provided it is kept dry*. An alternative scratching material is thoroughly dry wheat chaff. With the system above noted for keeping the litter clean, it is quite possible to make it last at least six months without a change, *provided it is kept dry*.

Whatever litter may be adopted, it should be borne in mind that the objects to be attained are the keeping of the scratching material sweet, dry and "scratchable," so that the birds have every encouragement to scratch for the grain and to indulge in their daily dust-bath.

Of course, two great factors in keeping a sweet atmosphere in the house are sunlight and good ventilation, which points should always be remembered in designing a house for Intensive Poultry Culture. It is most important also to keep birds free from insect pests. This is ensured by occasionally (or whenever pests are detected) dusting the birds with insect powder, particularly round the head, neck, vent and under the wings, also by frequently introducing insect powder into all cracks and crevices in the houses and nest-boxes.

The drinking-water, it is hardly necessary to say, should always be plentiful, fresh and clean. To ensure this, it is better for the fountains to be on platforms or tables about fifteen inches from the floor; the birds can hop on to these and find their water clean, which it would not be if placed low enough for them to drink while standing on the litter, as their vigorous scratching would soon fill the water trough, at that height, with dust and litter.

In order to keep the scratching material dry, which is important both for hygienic reasons and so that it may remain "scratchable," care must be taken in designing a house for the Intensive system that provision is made for excluding the rain or snow. No doubt there are many ways of doing this; the way we have adopted is simple, easy of construction and effectual, while at the same time not excluding the air (see designs).

FEEDING.

From a fairly persistent study of the many poultry journals published in this country, it would appear that there are as many beliefs regarding the feeding of fowls as there are people who keep fowls! Any remarks offered in this book on the feeding of fowls must not be taken as an effort to swell the number of different opinions, or to lay down the law on so vexed a question, but merely to state the system followed with our own stock.

The underlying ideas we have held as necessary in feeding fowls in close confinement are (1) to make them work hard for their corn, (2) to feed bulky foods, (3) to always keep laying hens if anything a little hungry, or, in other words, always keen on their food, (4) to arrive at a judicious use of foods which tend to put on fat, (5) to give plenty of variety when feeding wet mash.

Do not give wet mash to laying hens in the morning, as experience teaches us that the birds sit about afterwards, instead of keeping active. Start with a feed of corn, buried deep in the litter, about seven o'clock and at eleven and three repeat the dose; give green stuff at 1 p.m. and the last feed, half-an-hour before the birds go to roost, should be a wet mash given in troughs, as much as they will clear up, so that they may go to bed with full crops. These hours are subject to variations, according to the season of the year.

The great object is to keep the birds scratching, on account of the exercise and this is attained by giving frequent feeds in small quantities of small but sound corn, which should always be buried in the litter.

Use only wheat and oats alternately, maize is too fattening for birds in close confinement. The birds have about two ounces each per day, divided into the three grain feeds and are, in consequence, always on the move.

As regards mashes, ring the changes on the following:

No. 1.—One part biscuit meal (with 15 per cent. of meat), two parts bran, two parts sharps. Scald the biscuit meal and bran well, and dry off with the sharps.

No. 2.—Two parts bran, fish meal in the proportion of one ounce to six birds, two parts Sussex ground oats. Scald the bran well, mix the fish meal and ground oats together dry, and then use them for drying off the bran.

No. 3.—Two parts bran, one part barley meal, two parts sharps, fish meal in above proportions. Scald the bran, and mix other meals dry, using them for drying off the bran.

This mash is more suitable for winter, as it is better not to use barley meal in the summer owing to its heating nature.

The addition to any of the above mashes of one part clover and alfalfa meal is very good, particularly in winter, when there is a shortage of green stuff; it should always be scalded. We also use lawn clippings, when obtainable, in the same proportion as the clover, either dried or fresh.

For green stuff give whatever is obtainable from the kitchen garden, such as cabbage leaves, lettuce leaves, etc. Such things as potato parings, trimmings of Brussels sprouts, leek tops, etc., should be boiled down with house scraps, in the water used for scalding mashes. It should be remembered that onion tops must only be given very sparingly or the eggs will be tainted. Turnips, swedes, or mangolds may be given raw, cut in half and suspended in houses for the birds to peck at, or boiled and put in mash. Such things as cabbages should be tied up together and suspended in the houses.

SPROUTED OATS.

Another excellent form of green stuff is sprouted oats, which should be prepared as follows:—

Take 1½lbs. of oats, place them in a bucket, pour hot water on them sufficient to well cover them, and leave them to soak for 24 hours. Then turn them out into a shallow box measuring 20 inches by 10 inches by 3 inches deep, the bottom of which should be perforated with numerous holes to allow good drainage. This quantity of oats spread evenly over the bottom of a box of this size will lie about half an inch thick. The best way to promote their growth is to put the box in a greenhouse or under a glass frame. The oats should be watered with hot water, and stirred every day until they begin to sprout, then, after spreading the oats level, all stirring should be discontinued, but they should still be watered each day. The best time to feed the sprouted oats to the birds is when the green is about 1 to 1½ inches high, watering should be stopped about two days before the green reaches this height.

One pound and a half of oats sprouted is sufficient to give 100 adult birds a feed, so that it is easy to see that about two square inches is the feed for each bird, and smaller or larger numbers can be dealt with accordingly. It is hardly necessary to add that the oats will sprout quicker in a warm temperature.

DAILY ROUTINE.

The daily routine for birds in houses when fed on the wet mash system is as follows:—

After opening houses, the first feed of grain is given and fresh water, the grain being always buried deep in the litter, so that the birds may be kept busy scratching for it as long as possible. Then all dropping boards are scraped, cleaned and removed outside the house during the day; this removing the dropping boards and placing them outside the houses during the day purifies them and gives more room in the house for the birds. After this has been done, the litter is well raked over. The work is so proportional that by the time this is done the hour has arrived for the second feed of grain, again buried deeply in the litter. The next thing is to prepare the green stuff, of which, to young, growing birds particularly, give a liberal amount. It consists of all sorts of green food ordinarily found in a kitchen garden and when there is not sufficient of this, feed sprouted oats. About 3 p.m. a third feed of grain is served in the same manner as the others; and, lastly, half an hour before roosting time, the mash is served in troughs, the dropping boards are replaced and the house closed, according to weather and time of year. It may be as well to say that we always give fresh water twice daily and that care should be taken that green stuff is not left lying on the ground. One way to avoid this when feeding loose leaves is by suspending them in a net bag, which enables the birds to get at them easily, but prevents the stalks from being littered about.

Any spare time, particularly on wet days, should be utilised in sifting the litter through a coarse sieve, so that each house in turn gets at least one thorough sifting every six weeks. In this way litter remains perfectly sweet and serviceable for some time, so long as it is dry.

DRY MASH FEEDING.

Since this book was first published we have been experimenting with dry mash feeding and have come to the conclusion that, when birds are kept intensively, it is by far the better method. By its use there is much less likelihood of liver troubles (a thing not always easy to avoid with birds kept in close confinement), because the birds are undoubtedly more active and there is not the tendency to sit about one so often sees after a heavy feed of wet mash. It also gives the timid bird a much better chance of getting its proper amount of food, instead of it all being gobbled up quickly by the greedy ones. The method we have adopted is as follows:—

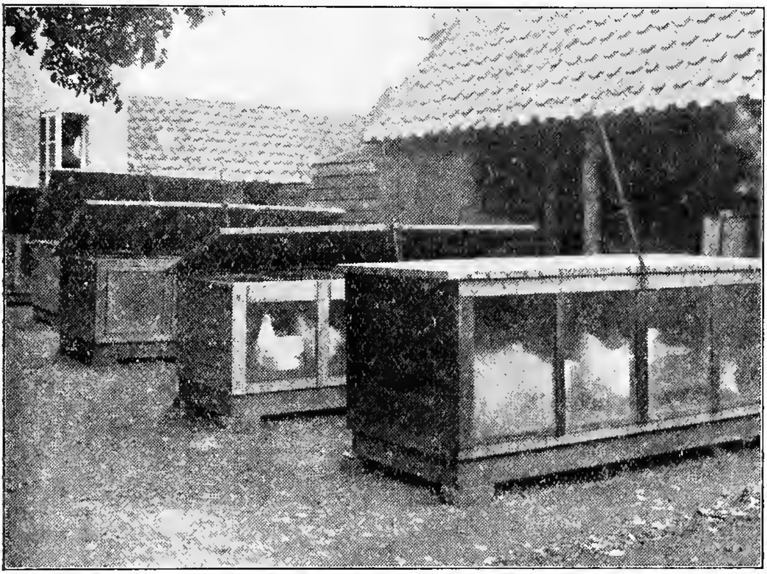
After the houses have been opened up, the first feed given is oats or wheat, a heaped tablespoonful per bird, well raked into the scratching litter. After this feed, the water-pots are washed and filled, and the dropping-boards are scraped. About 10 a.m. the birds are again given corn, either wheat or oats, varied in winter with an occasional feed of kibbled maize. This grain feed is well raked into the litter, the amount allowed being one heaped tablespoonful per bird. About one o'clock the hoppers are filled with dry mash and placed in the houses; the birds are allowed as much as they will eat of this, the hoppers being removed when the houses are enclosed for the night. Clover meal is a most useful adjunct to the dry mash, and forms an excellent substitute for green food, or as an addition to that when available. It will readily be seen that with this method of feeding there is much less labour and more spare time in which to sift the litter in the houses. The most important thing to remember is *never* to allow the water pots to be empty, as birds fed on dry mash drink a very much larger quantity than usual.

Photo] [*"Feathered World."*

House for twenty-five birds, showing birds feeding from dry mash hoppers.

SUITABLE BREEDS.

As regards breeds suitable for the Intensive system, our experiments have been confined to Buff and White Orpingtons, White Wyandottes, White and Black Leghorns, and Rhode Island Reds, all of which have done quite satisfactorily. We began our experiments with selected good-laying strains of Buff and White Orpingtons from the stock of a very well-known breeder; it is as well to note that it is important to start with good and healthy stock of a good laying strain if the system is to be given a fair trial. At the same time we purchased some White Wyandottes of a well-known utility strain, which, it may be interesting to say, came from practically unlimited range. All these birds settled down quickly in their new homes, as well as a few White Orpingtons and Rhode Island Reds about two months old, we had previously bought. Shortly after this we added to our stock some day-old chicks (White Leghorns) from an equally well-known breeder, which we reared entirely in fireless brooders, of which more anon. We find that where the need is only to produce eggs for table, the lighter breed of Leghorns is the more advisable as being less troubled with broodiness, but where poultry for table are also desired it is advisable to keep a heavier breed, and



Photo] [*"Feathered World."*

General view of brooder houses when occupied by adult stock.

we think the White Wyandotte can quite hold its own in both lines.

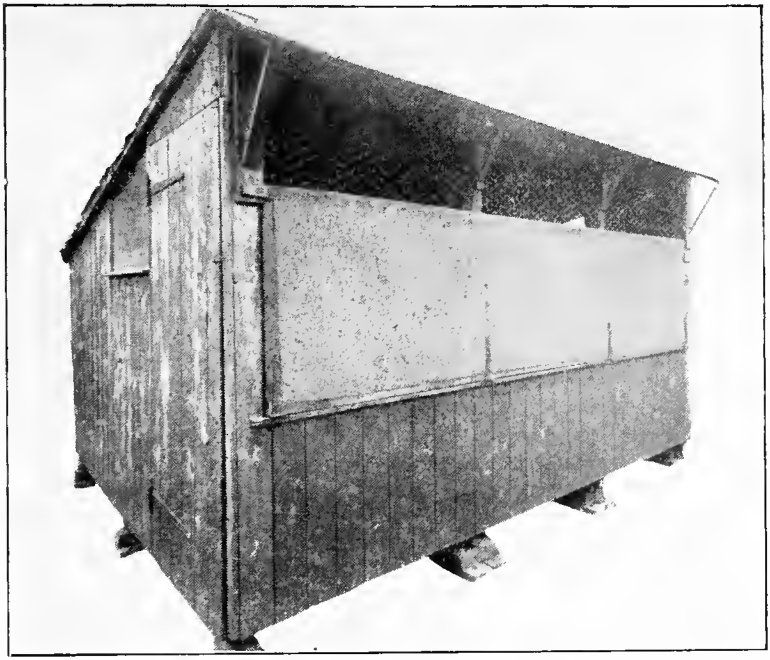
The question of breeding from intensively kept stock is a very controversial one, so it may be of interest to some readers if we give our experience. We now have some stock which have been intensively kept and bred for four generations; during that time the percentage of fertility has been very high, one year reaching 98 per cent., and never going below 90 per cent. We think this will effectually dispose of the idea that it is impossible to rear successfully from such stock and, besides this, the hatching and rearing percentages are much the same and the birds quite as healthy and strong as any birds we have purchased from time to time. We attribute this *entirely* to correct feeding and housing.

THE FIRELESS BROODER.

While the method of rearing chicks in Fireless Brooders might be employed by anybody not farming poultry intensively, a book on Intensive Poultry Culture would be incomplete without reference to that method. There are now on the market several makes of Fireless Brooder, all claiming that by their use chicks can be reared satisfactorily, without any artificial heat, from the shell to such time as they would, if hen reared, be parted from the hen. We have only tried two of these, and have found them both satisfactory. The principal points in favour of this method are (1) marked absence of leg weakness, cramp and, in fact, any disorder; (2) no lamps to attend to, and none of the dangers attached to the use of lamps; and the conclusion we have reached is that it is quite as easy to rear strong healthy chicks without artificial heat as with. We reared 90 per cent. of those hatched. We think, however, that during December, January, and February it is wiser to use a heated brooder, or to place the chicks under a hen in the brooder coop, as, owing to our damp-laden atmosphere during those months, the chicks do not thrive in a fireless brooder as they do during the other months of the year. In selecting a Fireless Brooder the chief points to bear in mind are (1) provision for adequate and proper ventilation; (2) the means for conserving the heat which the chicks generate themselves; (3) safeguard against sweating and damp resulting therefrom; (4) insurance that the chicks cannot crowd on top of each other, and thereby cause smothering; (5) simplicity of construction, giving facility for cleaning, feeding and tending the chicks with the minimum of labour. It is generally said by American exponents of Fireless Brooding that success cannot be expected with a smaller number than 25 chicks for each brooder, but we were quite successful with even so small a number as seven. In the chapter devoted to description of houses, appliances, etc., a description of the Fireless Brooder we use is given.

FEEDING OF CHICKS.

We do not give our chicks any food for at least forty-eight hours after leaving the shell, but when 36 hours out they are offered a little fine grit and some water. Until the chicks are a week old only dry chick feed is given every two hours.



Photo] [*"Feathered World."*

House for twenty-five birds showing rain-shutter up. Note the wide drip-board.

After they are a week old the dietary is as follows:—

7 a.m., dry chick feed (best quality).
9 a.m., dry chick feed.
11 a.m., green food.
1 p.m., boiled rice, dried off with Sussex ground oats.
3 p.m., dry chick feed.
5 p.m., dry chick feed.
7 p.m., dry chick feed.

These times are, of course, approximate according to time of year.

Grit and fresh water, of course, are always in the houses. For green food we give sprouted oats, cress, lettuce and tops of spring onions, all chopped fine, also fresh cut, short, fine, grass clippings. A little finely-chopped meat may be given occasionally. As the birds grow, the length of time between each meal is gradually increased till they get to four meals a day, at about six weeks old. When about three weeks old, a larger grade of chick food should be used and at about six weeks they may have small wheat. At this age they may be given dry mash alternately with the dry chick food or small wheat, green food being an extra to the four meals a day.

These ideas on young chick feeding must, of course, only be taken as suggestions, but they are particularly suitable when the birds are being reared entirely for egg-laying. It would be unwise to lay down any hard and fast rules on the matter, so much depends on the growth and breed of chicks, which must be left to the common-sense of the rearer.

IMPORTANT POINTS.

It may perhaps be as well, before going on to the houses, etc., to emphasise a few of the most important points.

Don't allow green or any food (except grain) to lie on the litter.

Always suspend green food from the roof of the house at a convenient height for the birds to peck at.

Wet mashes should be given in troughs.

Dry mash, oyster shell, and grit should be always given in hoppers.

All food receptacles should be kept clean.

If the birds leave any wet mash, it is better to remove it in about a quarter of an hour. With a little common-sense planning none need be wasted, but don't give any food which has gone sour, as wet mash quickly will.

Don't neglect care of nest-boxes; they should be kept clean, and free from insect pests.

Bury all grain deep in the litter.

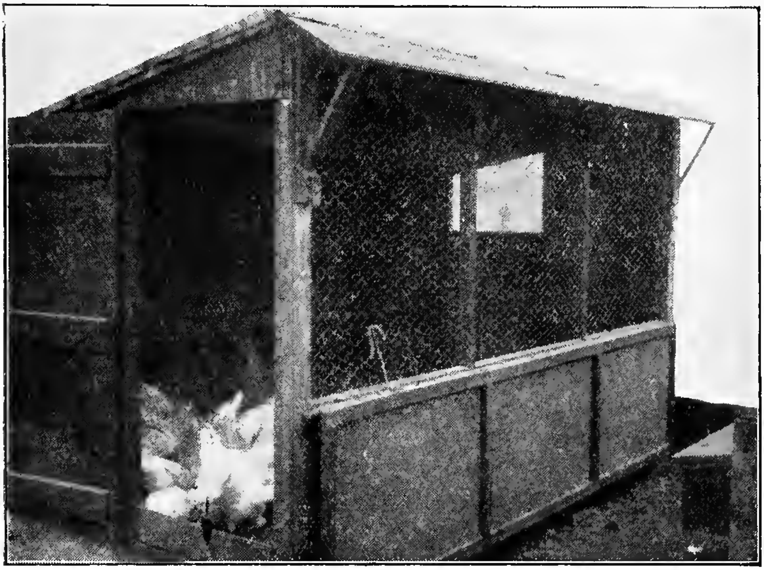
Keep the birds and litter from getting wet and have the litter always scratchable.

With the wet mash system, should the birds not seem keen on their food at any time when in health, it is best to miss a meal and they will probably come to the next one with sharpened appetites.

We must not omit to add that we advise giving laying hens mustard during the winter months, in the proportion of one teaspoonful to six hens, if using wet mash.

HOUSES AND APPLIANCES.

As has been already stated in the preceding pages of this book, the exact form of house to be used for Intensive Poultry Culture is of no importance, except from the point of view of convenience, provided that it allows not less than three square feet of floor space for each adult bird, is at least three feet from floor to roof, and ensures sufficient warmth in cold weather, good ventilation, ample air and sunlight, with complete protection from rain for the birds and their litter.



Photo] [*"Feathered World.*

House for twenty-five birds, showing rain-shutter down, with birds scratching.

While the drawings and designs here following are of houses, etc., which have been evolved after much consideration and practical experience, it must not be supposed that they claim to be the last word on houses, etc., for Intensive Poultry Culture.

They are only included in this book as examples of houses which do possess the essential qualifications stated above, while they differ considerably in certain points from those advertised by manufacturers of poultry houses, though not without good reason.

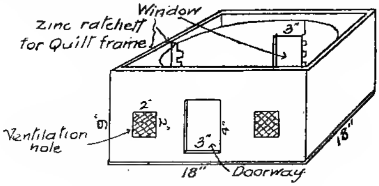
Should any reader desire to obtain houses, etc., according to the designs in this book, he should communicate with the author, who will be pleased to put him in the way to get them well made at reasonable cost.

A FIRELESS BROODER.

As the first appliance used in Intensive Poultry Culture after the chicks leave the shell is the Fireless Brooder, we begin with the description of that, which is somewhat after the design of Meech's City Brooder.

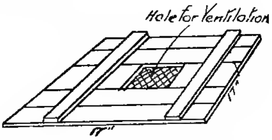
This Fireless Brooder, to take not less than 25 chicks and not more than 50, can be constructed as follows:—

Make (of ½-inch T and G Matching) a box 18 inches square, by 9 inches deep (outside measurement). See sketch below (Fig. 1).



(Fig. 1.) FIRELESS BROODER.

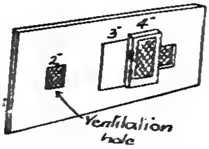
The lid (see Fig. 2) should be detachable, not hinged to the box, and made to fit inside so as to rest on the circular portion. It should have an opening in the centre about 4-inch by 4-inch, which should be covered with fine wire netting or perforated zinc.



(Fig. 2.) LID OF FIRELESS BROODER.

In one of the sides of the box there should be an opening 4-inch high by 3-inch wide, having a door hinged to the box which can be secured when open or shut by a button. The door should be made of perforated zinc, set in a wooden frame; and should measure 5-inch by 4-inch, so as to well cover the doorway (see Fig. 3).

(Fig. 3.)

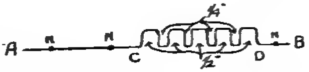


FRONT SIDE OF FIRELESS BROODER, showing hinged door of perforated zinc in wooden frame.

In the side of the box opposite to the door there should be a glass window measuring about 3-inch by 3-inch. Without this window the chicks do not readily learn their way into the brooder. In the back of the Brooder House (see Fig. 12) is a window to correspond with the Fireless Brooder box window. In the centre of the space on both sides of door and window, holes for ventilation about 2-inch by 2-inch, covered with perforated zinc, should be made, as it is important for the chicks when in the Brooder to have pure air. The bottom of the box should be lined with cork lino or Neponoid roofing, both of which can be easily cleansed.

To make the circular portion referred to above, take a strip of cork lino, or Neponoid roofing, measuring 54-inch by $7\frac{3}{4}$-inch. The object of this is to make the interior of the box circular, and so do away with the four corners. Before fixing this part, which can be done with a tack at the point where it comes in contact with each of the four sides of the box, openings to correspond with the door, the window, and the four holes for ventilation, should be cut in the material—those opposite the ventilation holes in the box being perforations. Next take four strips of thin zinc, each 13-inch long and $\frac{3}{8}$-inch wide, and bend as shown in sketch below (Fig. 4).

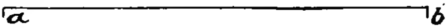
(Fig. 4.)



A to B = $7\frac{3}{4}$ inches.
A to C = $3\frac{1}{2}$ inches.
C to D = $3\frac{1}{2}$ inches.
D to B = $\frac{3}{4}$ inch.
N = nail hole.

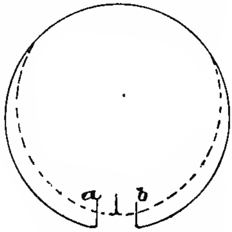
Nail one zinc strip, when bent as above, perpendicular to the bottom of the box, inside the circle, at each place where it comes in contact with the sides of the box, the end of the zinc strip marked "A" to rest on the bottom of the box, while "B" comes flush with the top edge of the circle. As two places of contact of circle and box are at the doorway and the window, the zinc strips in those cases must be placed at the side of door and window.

Each of the $\frac{1}{4}$-inch bends in the zinc strips forms a rest for the quilt frame, which is made as follows:—Take a piece of galvanized wire ⅛-inch thick and 5 feet long. Lay it out straight, measure 3 inch from each end, and turn those two 3-inch pieces at right angles to the rest of the wire as it lies straight, thus:



Then bend the wire till it forms as near as possible a perfect circle of 16¾-inch diameter, as shown in Fig. 5.

(Fig. 5.)



Tie 'a' to 'b' temporarily so as to leave a gap of 3″ between.

Cover the frame with thin soft flannel, and when covered remove the tie between "A" and "B." Then grasp "A" and "B," and press them together. This will contract the frame, as shown by dotted line, and enable it to be placed in the ¼-inch recesses in the zinc strips. When so placed, low down or high up, as may be necessary according to the size of the chicks, release the pressure on "A" and "B," and the frame will resume its proper size, and keep firm in the ratchets.

It is necessary to work some small holes all over the flannel of the quilt frame to assist the escape of the moist heat from the chicks.

The quilt to go on the top of the quilt frame should be a circular quilted cushion filled with cotton wool or vegetable down till it is one inch thick. The covering of the cushion should also be of thin soft flannel, and the quilt should have at least a dozen worked holes large enough to admit the passage of an ordinary pencil to facilitate ventilation and the escape of moist heat from the chicks. There should be two sets of quilt and quilt frame for each brooder, so that they can be changed when damp from the moist heat of the chicks.

The Fireless Brooder being now complete, the next step before making use of it is to make a nest for the chicks, which should be done as follows:—Put finely chopped wheat chaff, or cedar litter, and clean dry soil to a depth of one to two inches on the floor of the Brooder box, and line the sides of the circle with clean, dry, sweet hay, making a nest of size according to the number of chicks to be put in the Brooder, which for a box of this size should not be more than 50 or less than 25.

The chief points to bear in mind are that the chicks generate their own heat, and as they have no hen to cover them to assist in creating that heat and conserving it, they are dependent upon keeping close to each other and on the quilt being so placed as to keep close down on their backs, while the hay keeps those on the outside warm. Hence it is important that the nest should be only just large enough for them and that the quilt frame to begin with should be in the lowest ratchet, with sufficient chaff on the bottom of the nest to ensure a fair pressure from the quilt frame on their backs when squatting, so that when they stand up they cannot climb on top of or burrow under each other, which would mean in all probability the suffocation of the under ones.

The chicks may be left in the nest for ten to twelve hours, when they should be taken out for a few minutes to stretch their legs.

Neither food nor liquid should be given until they have been 36 hours out of the shell, and then only a little water and fine chick grit. We have found it better to give nothing more than this until they have been from 48 to 72 hours out of the shell. Then the usual dietary laid down in any book on chick rearing can be begun. The food should be given to them outside the Brooder box, on a smooth clean piece of board, and only pure fresh water should be given.

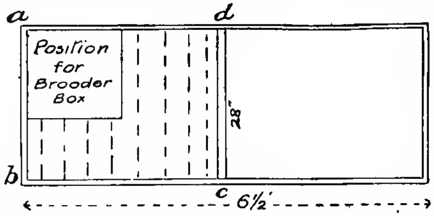
For the first two or three days after they begin to feed they will need to be put in and out of the Brooder box through the doorway by hand to teach them the way in and out. They will soon take to running in and out to suit themselves, provided there is a window in the Brooder box, and it will astonish anyone who has not used a Fireless Brooder to see how well they keep and grow.

BROODER HOUSE.

Perhaps the reader has been asking where do the chicks go when they come out of the Brooder box? They come out into the Brooder House, inside which the Fireless Brooder box has been placed as soon as its complement of chicks has been transferred to it from the incubator, or hens, if hen hatched, and which remains there as their sleeping compartment until they are old enough to dispense with it.

The first portion of the Brooder House to be made is the under-frame, for which we need three boards five inches wide and one inch thick, two being 6½ feet long and one 7 feet long, which latter must be cut into three equal pieces of 28 inches. We then proceed to make a rectangular frame, having the two 6½ feet boards for its long sides, and two of the 28 inch boards for its short sides, with the third 28 inch piece across the centre of the frame. See sketch (Fig. 6).

(Fig. 6.)



PLAN OF UNDERFRAME OF BROODER HOUSE.

Then nail 1-inch thick T and G boards across the half *a, b, c, d,* as shown by dotted lines. They form the floor upon which the Brooder box will stand, and they make the under-frame very strong and rigid. After putting the Brooder box inside the Brooder House in the place marked on plan of under-frame (see Fig. 6), cover the floor of that half of the house with clean dry earth and wheat chaff to the depth of an inch to begin with. As this soon gets foul from the chicks, and has to be frequently changed, it is only necessary at first to put in sufficient to absorb their excreta, but when they begin to scratch then increase the depth of soil and wheat chaff gradually.

Next make a moveable floor of 1-inch thick T and G boards to fit inside the other half of the under-frame. To support this floor, nail 1-inch battens on inside of two sides of that half of the under-frame. When the floor is in its place it will form, with the under-frame, a well three inches deep, which should be filled with dry earth and wheat chaff to top of under-frame. The under-frame should rest on four bricks, one under each corner, to ensure dryness and freedom from rats.

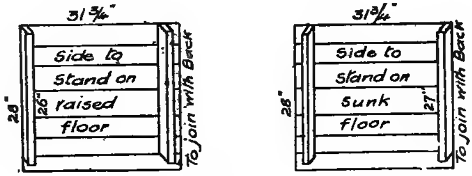
Until the chicks are able to look after themselves, they will be kept in the half *a, b, c, d,* but when they have started scratching regularly for their food, and know their way in and out of the Brooder box they can be given the whole Brooder House.

We will now describe the construction of the superstructure which stands on the under-frame. The sides, with measurements as shown on sketch below, should be made of ¾-inch T and G matching, nailed to two 2-inch by 1-inch battens. The battens for the side which has the fixed floor are 26 inches long, their top ends being flush with top edge of the matching, their bottom ends, which rest on the floor, being two inches from bottom edge of matching, which allows the bottom edge of the matching to come an inch below the top edge of under-frame, and cover the join of floor and under-frame. (See Fig. 7.)

The battens for the other side are 27 inches long, their top ends being flush with top edge of the matching, their bottom ends, which rest on top of the under-frame, being one inch from bottom edge of matching, which allows the matching to come an inch below top of under-frame. (See Fig. 8.)

The sides are overlapped by the back and the front, so on both sides the batten, which comes next to the back of the house, is set an inch within the vertical edge of the side, while the batten which comes next to the front of the house is set flush with the vertical edge of the side.

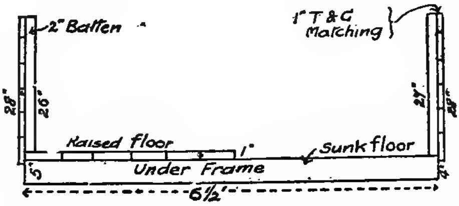
Sides of Brooder House.



(Fig. 7.)

(Fig. 8.)

Elevation of Sides Viewed from Inside.

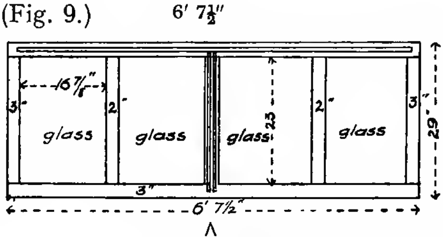


Longitudinal Section Showing Sides (Figs. 7 & 8) in Position.

The front consists of a frame 6 feet 7½ inches long, and 29 inches high, as drawn (see Fig. 9), divide in four equal portions to take glass.

(Fig. 9.)

1″ below top of frame on inside and flush with tops of sides runs a 1″ × 1″ batten to support wire and Hessian sliding frame, which covers the whole top of the house underneath the lid.



The top and bottom bars of 3″ × 1″. The Vertical bars are of 1″ × 2″.

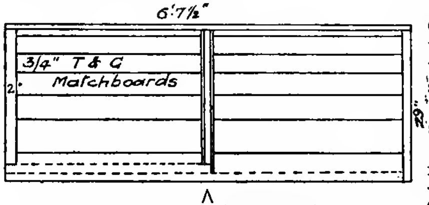
½″ battens placed ½″ apart to form groove for partition in centre.

ELEVATION OF FRONT FRAME OF BROODER HOUSE, VIEWED FROM INSIDE.

The back is exactly same size as the front, but consists of ¾-inch T and G matching, running horizontally, and nailed to 2-inch by 1-inch battens, standing vertically, as shown in sketch (see Fig. 10).

(Fig. 10.)

Top of fixed floor.>



1″ below top edge of back and flush with tops of vertical battens and sides run a 1″ × 1″ batten to support wire and Hessian sliding frames.

< Top of under frame.

Bottom edge of back to overlap under frame by 1″

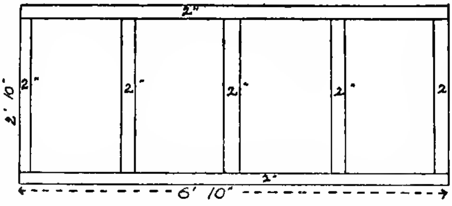
½″ battens placed ½″ apart to make groove for partition in each.

ELEVATION OF BACK OF BROODER HOUSE, VIEWED FROM INSIDE.

The lid consists of a frame of 2-inch by 1-inch timber, covered with ⅜-inch thick T and G matching, and Neponoid roof felting. The frame is 6 feet 10 inches long, and 2 feet 10 inches wide. See sketch (Fig 11).

(Fig. 11.)

The lid is hinged to the back by three 6″ Cross Garnet hinges, and is held up when open by an iron stay.



This frame covered with ⅜″ thick T & G matching and that is covered by Neponoid or any roofing felt.

FRAME OF LID OF BROODER HOUSE.

Fig. 12 shows the complete Brooder House, with central partition, which can be removed if necessary. This partition has a hinged door, which can be secured, shut or open, by a button.

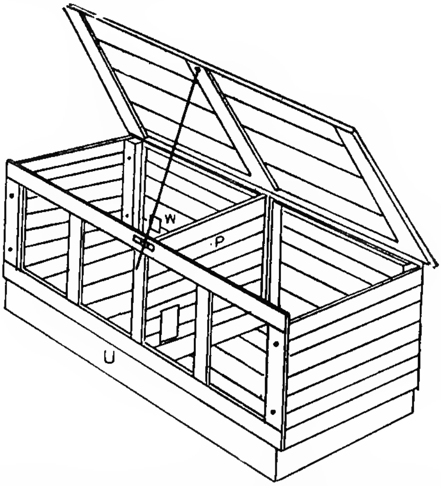
(Fig. 12.)

BROODER HOUSE.

P = Movable Partition.

U = Underframe.

W = Window to correspond with window in brooder box.



Each of these Brooder Houses gives sufficient accommodation for 50 chicks up to 21 days old, when the number should be reduced to not more than 25, and if reared entirely in these Brooder Houses till they are ready to lay, the numbers should be gradually reduced till not more than six of that age are in each Brooder House.

Each of these houses will accommodate six adult birds, and while primarily designed and intended for young stock, will often be found very useful for adult birds, particularly when for some reason or other it is desired to put a bird alone for a time. Each half of these houses gives a very good temporary home for two or three hens or cockerels, or for a full-grown cock.

We draft our chicks when between six and eight weeks old into large houses, accommodating 75 to 100 chicks from two to four months old, gradually reducing the number till only 25 adult birds remain.

A sketch and description of one of these houses will be found on page 28.

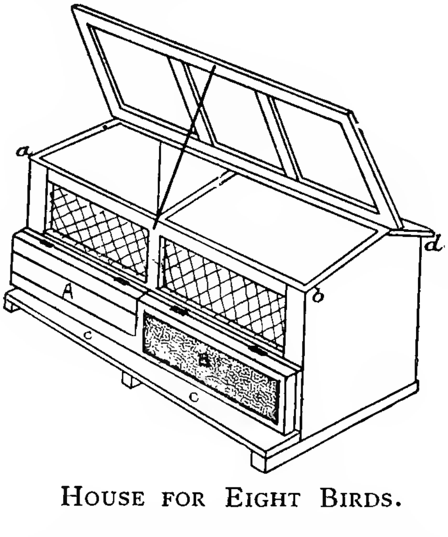
It can be readily understood that, although such a house has only a floor area equal to that of five Brooder Houses, each bird has in the large house much greater space to move about in—a valuable factor for growing chicks, and we think that chicks drafted into the large house when between six and eight weeks old, instead of being kept in the Brooder

Houses till ready to lay, will do better, even though the actual floor space per bird in the large house may work out at less than what they would get in the small. We have reared chicks with complete success only in small houses, and they seem sometimes to repay the greater individual attention which they necessarily get in the small houses, but for anyone rearing chickens in large numbers the necessity of minimising the labour bill makes the large house indispensable.

HOUSES FOR ADULT BIRDS.

If accommodation for only eight adult birds is required, then the house shown in Fig. 13 below is excellent.

(Fig. 13.)



HOUSE FOR EIGHT BIRDS.

It has a floor area of over 24 square feet, and a height between floor and roof of from 3 to 3½ feet. The lid can be opened so as to practically make the house roofless, while a moveable wire netting frame, inside the rectangle *a, b, d, e,* keeps the birds from getting out, or it can be lowered to give shade, while still allowing plenty of fresh air above the birds, and when closed completely, as the lid overhangs the front frame by three inches, it forms, except for rain driving in at an angle, a sufficient eave to prevent rain wetting the birds or litter.

The front frame is boarded for half its height from the bottom, and to that boarding are hinged two shutters, which, when turned up, close the open front completely. The shutter marked "A" on the sketch (Fig. 13) is of T and G matching, and is always turned up in very cold weather and at night to make a roosting place for the birds on the moveable perch (with dropping board), which goes across from front to back on that side of the house. The shutter marked "B" is of Hessian stretched on a wooden frame, and can be turned up to keep out driving rain or snow, while still allowing the ingress of fresh air.

As the top of the front frame is only three feet above the footboard (marked C on sketch), the birds can be easily caught, the pen can be easily cleaned, and feeding and watering done without difficulty.

The house is designed for outside nest boxes, which can be fitted either to the back or one end. It can also be easily divided to make two or three boxes for cocks or single birds, which adds to its usefulness.

The principal measurements are as follows:—

From side to side (A to B), 7 feet 2 inches.

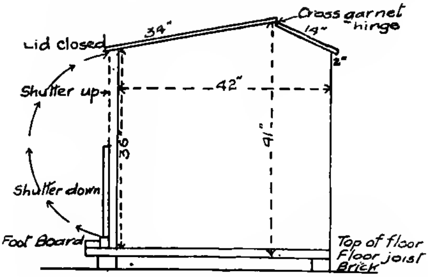
From front to back (B to D), 3 feet 6 inches.

From floor to top of front or back frame, 3 feet.

The floor consists of 1-inch thick T and G boards, nailed to three joists of 2-inch by 2-inch, each joist being 4 feet long, to allow for the footboard. The floor space is 7 feet by 3½ feet, or 24½ square feet.

The front frame is made of 2-inch by 1-inch battens, tenoned and morticed to each other, the two horizontal bars being 7 feet long, and the three vertical bars being 3 feet long. The matching used for front frame, shutters, sides, and back should not be less than ¾-inch thick, while one inch thick is preferable, as the extra thickness ensures dryness and warmth. The matching on top of the lid frame need not be more than ⅝-inch thick, as the roof should be covered with Neponoid roofing. The lid frame is constructed of 2-inch by 1-inch battens, the two long bars measure 7 feet 4 inches, and the four short bars 2 feet 10 inches, making a frame 7 feet 4 inches by 2 feet 10 inches over all, overhanging 3 inches in front and 1 inch on the sides. The moving lid is hinged with three cross garnets (6 inches long) to the fixed portion of the roof which overhangs the back one inch. The following sketch (Fig. 14) gives the elevation of the side of the house, and shows how the fixed roof and moving lid are fitted to the side so as to get the necessary slope for rain to run off.

(Fig. 14.)

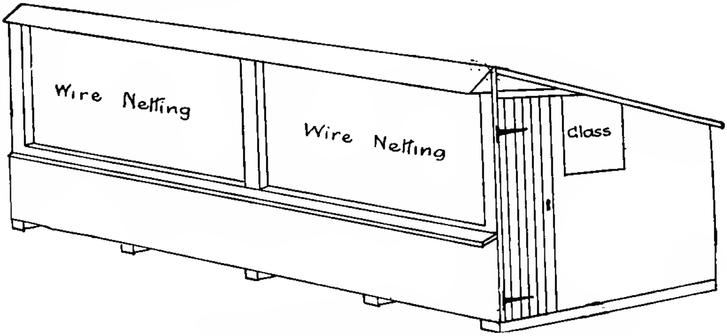


SIDE ELEVATION OF EIGHT BIRD HOUSE.

If accommodation is required for a large number of birds, whether divided up into small lots for breeding purposes, or to be in large flocks of from twenty-five to hundreds or tens of thousands, then houses on the lines of that shown in sketch below (Fig. 15) are more suitable, more economical to make, and tend to minimise labour.

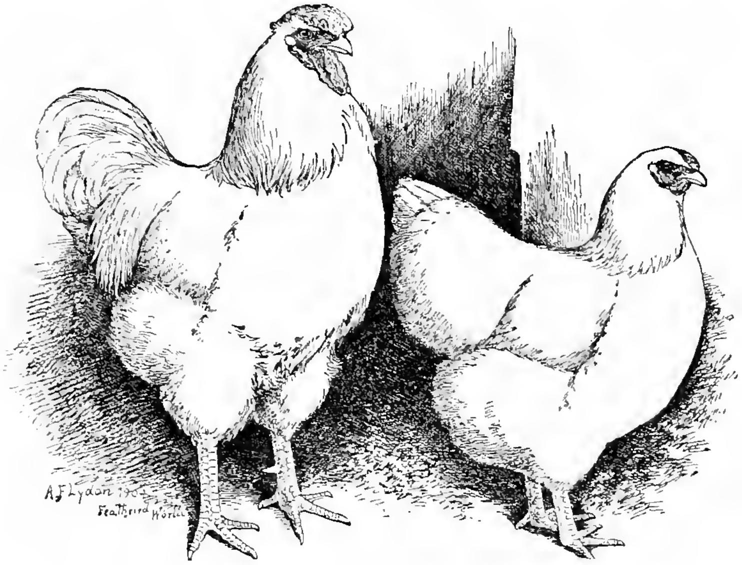
Floor Area, 150 square feet.
Frontal length (outside), 16′
Depth, back to front, 10′
Height, from 6′ 3″, back 4′ 6″

Floor, 1″ T & G. Boards on 2″ × 2″ joists.
Roof covered with Neponoid, outside nest boxes at back.



HOUSE FOR FIFTY ADULT BIRDS.

The house is made in sections, the sides, front and back being bolted together, the roof and floor being made in two halves; it is divided in the middle by a thin partition, so that 25 birds may be kept in each half. The house can be taken down, put together again, and shifted with ease. Floor joists, roof rafters, and frame timber, where necessary, are of 3-inch by 2-inch, where 3-inch by 2-inch is not required 2-inch by 2-inch is used. The match-boarding is all 1-inch thick when exposed to weather. The roof is covered with Neponoid. Hessian shutters are attached to the outside by means of hinges, so fixed that in wet or cold weather the shutters can be turned up over the wire netting to within a foot or so of the roof, while when fine and warm they hang down against the lower front of the house.



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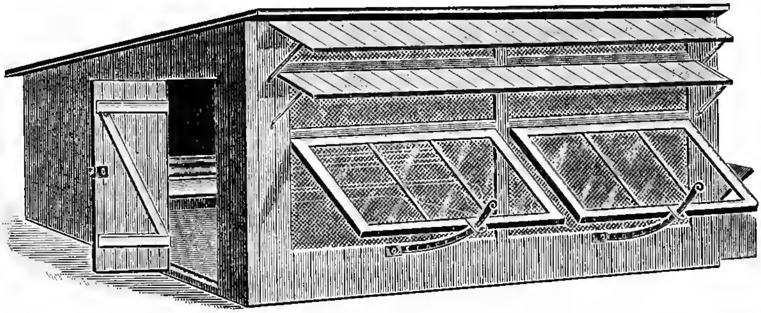

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